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**Isolation and characterization of the virus (SARS-CoV-2)
– be watchful of false claims and twisted scientific presentations**

Saeed A. Qureshi, Ph.D. (principal@pharmacomechanics.com)

It is both logical and common sense to expect that if a particular material is claimed to exist then its presence must be established using valid and well-recognised practices and laws of science. For example, if it is suggested that a certain geographical area may provide a significant amount of mineral such as gold or oil then that mineral must be extracted, isolated and characterized before proceeding with large scale production for public benefit and commercial gains. The same understanding has to be applied in other areas including the medical and pharmaceutical areas.

At present the world is allegedly in the grip of a serious and wide-spread disease (pandemic) referred to as COVID-19 caused by a virus labelled as SARS-CoV-2. Hence, there is purportedly an urgent need for a treatment for this disease. Commensurately, it is important to note that the medical community has declared with apparent certainty that disease (COVID-19) exists and is caused by the virus SARS-CoV-2.

It should therefore be logical to assume that medical science or scientists must have extracted, isolated and characterised the virus (SARS-CoV-2) and its associated disease (COVID-19) – however, apparently not! There have been some reports describing isolation and characterization of the virus which, scientifically speaking, are not only false, but outright deceitful [1, 2, 3]. This situation is explained here by critically evaluating one such publications:

“Isolation and rapid sharing of the 2019 novel coronavirus (SARS-CoV-2) from the first patient diagnosed with COVID-19 in Australia” [3]

With regard to the falseness of the (publication’s) claim, the direct and short answer can be found in the text of the article itself:

“In consultation with the World Health Organization, the viral isolate was shared with domestic and international reference laboratories within 24 hours, and lodgement with major North American and European culture collections for further distribution is underway”.

The title of the article states “isolation of novel corona virus”, while the text describes it as a “viral isolate”. These two terms are very different. Isolation of a virus means extraction of a virus in its purest form. Contrasting, a viral isolate is a culture/mixture/soup of various things with the virus merely present as one of its components. An isolate is generally a mixture of known and unknown components. By way of analogy we might say that molasses is an isolate of sugarcane or sugar but does not represent (pure) sugar. Even the presence of the virus in culture cannot be established without comparing it with a prior and independently isolated and characterised SARS-CoV-2 itself. Therefore, the title of the publication and its claims regarding virus should be considered false and dodgy.

Reviewing the study/publication in further detail would clearly indicate a lack of logic and underlying science employed in the isolation and characterization of the virus.

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The study declares that the isolate was obtained or harvested from a patient admitted to the hospital with the following symptoms: fever (38.1°C), a cough with sputum production, O₂ saturation 94% and with progressive dyspnoea. Other routine clinical tests showed elevated readings.

Intravenous ceftriaxone (2 g/day) and azithromycin (500 mg/day) were commenced on admission day 4 to treat potential secondary bacterial pneumonia. The patient gradually improved; fever, productive cough and dyspnoea resolved by admission day 12, and he was discharged from hospital.

The question is why it was that the patient was suspected and tested for SARS-CoV-2. The patient appeared to have regular flu symptoms or infection which was being treated with antibiotics (ceftriaxone and azithromycin) leading to the patient's recovery. However, as reported, the test was performed for SARS-CoV-2 and as follows:

"Detection of SARS-CoV-2 in clinical samples: A nasopharyngeal swab and sputum collected on presentation were positive for SARS-CoV-2 on real time RT-PCR assay. No virus was detected in urine samples or in single faecal or plasma samples"

Note here that an RT-PCR test is for testing RNA/DNA, not virus. An RNA or DNA is like a filament in a light bulb: although an important and critical component, it is not itself a light bulb. Claiming that the virus was detected and established is false and incorrect. In addition, the RT-PCR test is non-specific and notorious for its false positive and negative outcomes [4]. It is a non-validated test which cannot even detect relevant RNA or DNA correctly. Therefore, in reality, a mere assumption was made here that

the patient (single patient, n=1) had the particular virus SARS-CoV-2, and a non-specific and irrelevant RT-PCR virus-test was used to establish this assumption.

The procedure used to obtain the viral isolate, as described in the publication, may be considered a general narration of a typical chemical polymerization process while monitoring all the steps and progressions and using the invalid RT-PCR test. In short, scientifically speaking, there is indeed no evidence that the virus was present and/or isolated. Showing pictures from electron microscope highlighting "virus-like" spherical bodies with spikes does not demonstrate or establish presence of the SARS-CoV-2 virus.

A true isolation or extraction of a virus means obtaining a physical sample of a pure virus (particles) in a test tube or vial. The virus has to be characterised with standard and well-recognised physical and chemical tests providing details such as: physical characteristics; dimensions, three-dimensional structure and layering/coating; chemical composition including elemental analyses for the whole virus and its individual components such as RNA, DNA, proteins, lipids etc.; and spectral analysis including IR, UV, NMR and MS profiles along with a stability profile. This extracted and well-characterized (reference) virus should then be used in analytical labs for the development of analytical methods or tests to be able to quantitatively measure its content in different biological matrices such as blood and tissues of animals and humans. This reference virus, well-characterized and quantifiable, may then be used by virologists, physicians, microbiologists, infection experts, and others, to produce and reproduce the infection (COVID-19) in biological models such as animals and humans

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with specific and quantifiable symptoms. Nothing of this sort is described in the relevant literature, and the publication under discussion is no exception. It is not clear how and on what basis scientists are claiming that the virus has been isolated. It is very important to note that isolation and characterization of a virus belongs to the area of chemistry (the underlying science). However, most of the work reported in the literature (including the publication under discussion) by experts in the area of medicine, immunology or infectious disease who arguably would hardly have any relevant training, expertise or experience in the science of extraction and characterization of any substance/virus. Their experience and expertise in this area appear to be SOP (ritual) based practices which lack relevance to the science of material (virus) extraction or isolation and its valid characterizations. Their work and claims could easily be challenged and shown to be false on scientific grounds.

Unfortunately the situation is that the public believes that most claims made by the experts/scientists and authorities are science based, and that studies and testing would have been conducted using the actual virus. Some examples of the claims made are: (1) the SARS-CoV-2 virus exists; (2) SARS-CoV-2 is contagious; (3) SARS-CoV-2 is 5 or 10 times deadlier than the common flu virus; (4) face-masks provide protection from the virus; (5) social distancing (2m) protects the public by stopping or reducing the spread of the virus; (6) washing hands or exposed skin surfaces provides protection from the virus; (7) lockdowns (partial or full) help reduce the spread of the virus; (8) a significant increase in positive test results ("cases") show a wide spread of the SARS-CoV-2 virus; (9) vaccines are under development, with various time

schedules for availability, to protect patients/public from the SARS-CoV-2 virus. All these claims require validation using physical samples of the virus, but nowhere has the virus been positively identified and no one seems to be working on this indispensable aspect. There can be therefore no scientific evidence available to support the above 9 claims simply because the virus has yet to be isolated and characterised. Such claims might only be justified once experiments using actual physical sample of the virus are conducted. Extremely simple experiments, at least in some cases such as establishing the usefulness of masks [5], could be readily conducted if virus samples were available. But as no virus sample is available even such relatively simple issues (usefulness of masks) cannot be concluded upon.

Experts and authorities are requested to reconsider their views with regard to the scientific method in declaring the presence of the virus, its link to the disease and its spread. The science of analytical chemistry would state that there is currently no evidence available in support of the current claims and measures regarding the virus SARS-CoV-2 and COVID-19 narrative.

References:

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4. <https://principia-scientific.org/international->

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5. <http://www.drug-dissolution-testing.com/?p=3488>

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